

WHAT IS CLAIMED IS:

1. A web-winding means comprising a generally cylindrical support structure having an outer web wrapping surface for receiving at least one convolution of a web, said web wrapping surface having a surface texture less than 0.5 microns Ra to produce a static coefficient of friction x_1 between the outer web wrapping surface and first contact surface of said at least one convolution of said web, and wherein said first contact surface of said at least one convolution of said web and a second contact surface of an at least a partial second convolution of said web produces a static coefficient of friction x_2 , wherein x_1 is less than x_2 .

2. The web-winding means of claim 1 wherein said outer web wrapping surface comprises materials selected from the group consisting of modified amorphous thermoplastic resins and semi-crystalline thermoplastic resins.

3. The web-winding means recited in claim 2 wherein said modified amorphous thermoplastic resins include lubricated polycarbonate and silicone polycarbonate copolymers.

4. The web-winding means recited in claim 2 wherein said semi-crystalline thermoplastic resins include polybutylene-terephthalate, polybutylene-terephthalate/polycarbonate alloys and a modified polybutylene-terephthalate.

5. The web-winding means recited in claim 4 wherein said modified polybutylene-terephthalate contains about 20 wt-% solid glass bead.

6. The web-winding means recited in claim 1 wherein said generally cylindrical support structure has a tensile strength at 3.2 mm of about 52 MPa.

7. The web-winding means recited in claim 1 wherein said generally cylindrical support structure has a tensile elongation at 3.2 mm of about 200 percent.

8. The web-winding means recited in claim 1 wherein said generally cylindrical support structure has a flexural strength at 3.2 mm of at least 83 MPa.

9. The web-winding means recited in claim 1 wherein said generally cylindrical support structure has a flexural modulus at 3.2 mm of about 2,300 MPa.

10. The web-winding means recited in claim 1 wherein said generally cylindrical support structure has a Rockwell R hardness of about 117.